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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/574,679

04/04/2006

Peter Hupfield

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1749

137 7590 10/20/2008  
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EXAMINER

LOEWE, ROBERT S

ART UNIT

PAPER NUMBER

1796

NOTIFICATION DATE

DELIVERY MODE

10/20/2008

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patents.admin@dowcorning.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/574,679	<b>Applicant(s)</b> HUPFIELD, PETER	
	<b>Examiner</b> ROBERT LOEWE	<b>Art Unit</b> 1796	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 02 October 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

Applicant's arguments/remarks, filed on 10/02/08, have been fully acknowledged.

#### ***Response to Arguments***

Applicant's arguments have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, new grounds of rejection are made (vide infra). This Office action is non-final owing to the newly presented grounds of rejection.

#### ***Priority***

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

#### ***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-5 and 7-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith et al. (US Pat. 3,329,661) in view of either Hupfield (WO-200316380) or Jo Lane et al. (US Pat. 4,661,577). For convenience, US Pat. 7,238,768 (equivalent to the WO publication) will be relied upon.

Claims 1-5 and 8-13: Smith et al. teaches perfluorinated polymer compositions useful for treating textiles such as paper, wood, leather and fur (2:39-47). Smith et al. further teaches that

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the compositions comprise perfluorinated copolymers which are prepared by polymerization of perfluorinated (meth)acrylate monomers (4:22-30) with glycidyl (meth)acrylate, amongst others (3:48-56 and examples). Smith et al. further teaches a process for treating a textile (examples).

Smith et al. does not teach the addition of an aminofunctional polysiloxane. However, Hupfield et al. and Jo Lane et al. both teach amino-functional polysiloxanes which satisfy the limitations of instant claims 1 and 2 (5:50-60 of Hupfield et al. and 3:20-4:45 of Jo Lane et al.). Both Smith et al. and Hupfield et al. and Smith and Jo Lane et al. are combinable because they are from the same field of endeavor, namely, compositions for the treatment of textiles. At the time of the invention, a person having ordinary skill in the art would have found it obvious to add the amino-functional polysiloxanes as taught by either Hupfield et al. and Jo Lane et al. to the compositions taught by Smith et al. and would have been motivated to do so because both Hupfield et al. and Jo Lane et al. each teach that aminofunctional polysiloxanes are employed as additives which impart softness (7:32-36 of Hupfield et al.) and confer desirable properties such as "hand" to textiles (1:18-21 of Jo Lane et al.). The compositions of Smith et al. are intended to be applied to the same fibrous substrates as those taught by both Hupfield et al. and Jo Lane et al. (2:39-47 of Smith et al.). Further, Smith et al. explicitly teaches that for treatment of fabrics, the perfluorinated glycidyl acrylate copolymers taught therein may be mixed with other treating agents, including softeners. The aminopolysiloxanes taught by Hupfield et al. and Jo Lane et al. are taught to act as fabric softeners. Further still, Smith et al. teaches that the addition of primary diamines to the compositions bring about a degree of crosslinking (2:70-72). Therefore, a person having ordinary skill in the art would expect that the aminopolysiloxanes as taught by both Hupfield et al. and Jo Lane et al. would inherently react with the epoxy-containing groups of the

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perfluorinated copolymers taught by Smith et al. Such a reaction would produce crosslinked sites having beta-hydroxylamine groups which satisfy instant claim 5. The incorporation of the aminopolysiloxanes taught by Hupfield et al. and Jo Lane et al. into the compositions of Smith et al. would also satisfy the limitations of instant claims 8-13 since Smith et al. teaches that any additives present may be added in admixture with the perfluorinated acrylic copolymers. Such a teaching satisfies the method claim of instant claim 8; the product prepared according to instant claim 8 and would function as a textile treatment composition.

Claim 7: Smith et al. teaches that in addition to the perfluorinated acrylic monomers and glycidyl acrylate monomers, other monomers such as alkyl esters of acrylic and methacrylic acid may be added (3:61-74).

Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eguchi et al. (US Pat. 4,316,941) in view of Ohmori et al. (US Pat. 5,021,527).

Claims 1, 8 and 9: Eguchi et al. teaches a polymeric product having excellent heat and chemical resistance based on a perfluorinated polymer (2:10-24). Because of the perfluorinated groups and the structural similarities of instant claim 1, it is implicit that the polymer systems taught by Eguchi et al. have oil repellent properties. Eguchi et al. further teaches that these polymers are based on an amino-functional polysiloxane (A), which is bonded through its amino groups (3:63-67 and 4:35-65), to an addition copolymer (B) which comprises perfluorinated monomer(s) and olefinically unsaturated monomers which have functional groups capable of reacting with the amino groups of the polysiloxane (A) (4:47-49). Eguchi et al. further teaches

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that additional olefinically unsaturated comonomers may be employed (3:30-35 and 9:66-10:3) and the process for preparing oil repellent compositions according to instant claim 8 (examples).

Eguchi et al. does not explicitly teach that the perfluorinated comonomer is comprised of a fluoro-substituted alkyl ester of an olefinically unsaturated carboxylic acid. However, Eguchi et al. does explicitly teach that additional comonomers such as (meth)acrylic acid esters may be added. While Eguchi et al. does not explicitly teach that the (meth)acrylic acid esters are perfluorinated, it would have nonetheless have been obvious to a person having ordinary skill in the art to employ such perfluorinated acrylic monomers in the compositions of Eguchi et al.; the motivation being rooted in the teachings of Eguchi et al. and echoed in the teachings of Ohmori et al. (1:13-15). Eguchi et al. and Ohmori et al. are combinable because they are from the same technical difficulty, namely, rendering substrates oil and water repellent by employing perfluorinated polymer compositions. Eguchi et al. is concerned with increasing the water-repellency of coating compositions and Ohmori et al. teaches that it is known to employ fluorinated acrylic polymers as useful water and oil-repellent agents. Based on these collective teachings, it would have been obvious to employ perfluorinated acrylic comonomers in the compositions of Eguchi et al. with the motivation that inclusion of the perfluorinated acrylates would be expected to increase the water repellency of the coatings taught by Eguchi et al.

Claim 2: Eguchi et al. further teaches that the amino-functional polysiloxane of instant claim 1 meets the structural limitations of instant claim 2 (10:35 and 10:55, for example).

Claim 5: Eguchi et al. further teaches that the polymeric product has -NHCH<sub>2</sub>CHOH- linkages resulting from the reaction of the amino-functional polysiloxane with the epoxide-groups of the perfluorinated addition copolymer (3:65).

Claim 6: Eguchi et al. further teaches that carboxylic acids may be used as a reactive site in the preparation of the amino-siloxane, perfluorinated epoxide-functional graft polymer compositions (3:55).

Claim 7: Eguchi et al. further teaches that acrylic acid esters can be added as additional comonomers (3:30-35).

### *Correspondence*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ROBERT LOEWE whose telephone number is (571)270-3298. The examiner can normally be reached on Monday through Friday from 5:30 AM to 3:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on (571) 272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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/R. L./  
Examiner, Art Unit 1796  
10-Oct-08

/Randy Gulakowski/  
Supervisory Patent Examiner, Art Unit 1796